Wetlands and climate change

Wetlands: crucial to reduce and adapt to climate change

Wetlands store enormous amounts of carbon, especially in their peat soils. Their rapid loss is fuelling climate change. Ending these losses is an effective way to reduce the amounts of greenhouse gasses.
Wetlands like peatswamps, marshes and floodplains store excessive water after heavy rainfall and release it gradually during droughts. Climate change is expected to cause extreme weather. Adaptation to climate change therefore needs healthy wetlands.

Peatland degradation: large emissions of carbon dioxide

Peatlands cover 3% of the world's land and freshwater areas and store as much carbon dioxide as 75% of the world's atmosphere – that's equivalent to more than 100 years of all fossil fuel emissions at current rates. However, these important carbon storehouses are under threat worldwide.

In many areas, peatland swamps are being drained so that the land can be exploited for forestry, agriculture and other uses. Especially the situation in the South-east Asian peatswamp forests is alarming. The once huge peatswamps of Peninsular Malaysia, Borneo and Sumatera are rapidly drained to enable logging and conversion into plantations.

As a result, current peatland degradation worldwide is resulting in carbon emissions of 3000 million tonnes of carbon dioxide per year — equal to a shocking 10% of all global fossil fuel emissions.

We can solve this problem

With very limited investments of only around one to five euros per tonne of CO_2, it is possible to manage the carbon stocks in tropical peatlands in a way that prevents further emissions. Through adequate peatland management, we are showing that it is possible to simultaneously support alternative livelihoods for local people and sustain globally significant biodiversity.
A key aspect of our efforts to manage and restore peatlands is our work to re-establish the hydrology, as keeping peat soils wet stops them from decomposing further. It is also the only workable way of preventing fires. We rewet peatlands by blocking drainage canals and erosion gullies. However, building a network of dams in soft permeable peat soils is very complicated and needs to involve local people. We have therefore developed special skills that allow us do this work using community-based approaches.
More information can be found on www.ckpp.org

Wetlands loss worsens climate adaptation

Inland wetlands like marshes, peatlands and lakes store around 30% of the world's fresh water. And, because they release it gradually, wetlands can mitigate the impact of extreme weather. If we lose the world's marshes and peatlands, less fresh water will be stored and available for people to drink or irrigate crops, especially in periods with less rainfall. Heavy rainfall will then also lead to more floods.

The ability of many wetlands to store and release water is threatened. Worrying examples are the paramos – the water towers of the Andes – and the high mountain wetlands of the Himalayas, which affect billions of people living in downstream areas in for instance China and India. Plus, the melting of glaciers due to climate change is making the situation even worse. Wetlands International has therefore supported the protection and restoration of the paramos in the Andes, and we are directly involved in partnership projects in the Himalayas. In addition we are restoring peatlands on the Tibetan plateau and improving water management in wetlands on the Indian subcontinent.

Coastal wetlands such as mangrove forests and coral reefs reduce the impact of storms and can help people adapt to sea-level rise. Mangroves can reduce the impacts of waves, as was seen when the Asian tsunami of 2004 struck: areas behind intact mangrove forests or coral reefs were less affected than coastal areas without these natural physical buffers. However, many tropical regions, including Central America and South-East Asia, are rapidly losing their coastal wetlands. They are directly affected by the development of coastal shrimp farms, deforestation, pollution, dynamite fishing, and the blocking of freshwater inflows by roads and dikes and other structures such as landfills.

We can solve this problem

Wetlands International has led the Green Coast project, working together with partners to restore over more than 1,000 hectares of coastal forest in the hardest hit areas of Indonesia, Thailand, Malaysia, India and Sri Lanka. This demonstrated the ability to make the tropical coasts of Asia resilient. More than 13,000 people have benefitted from this approach. More information can be found on www.greencoast.org .

We also work in the Himalaya region, quantifying the potential of the peatlands in these mountains to store excessive water and thus preventing river floods in India, China or Bangladesh.

For more information:
Wetlands International
Headquarters
+31 (0)317-486774
+31 (0)6 5060 1917 (mobile)
post@wetlands.org
www.wetlands.org